



Under the Shadow of Development: Rainfed Agriculture and Droughts in Agricultural Development in India

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Introduction

Agriculture continues to exert significant influence on the aggregate growth of our country. A long-term observation of the fluctuations in Gross Value Added (GVA) reveals that the peaks and troughs in agricultural sector are directly reflected on the aggregate GVA, despite the reduction in the sector's share in the overall GVA. No doubt, the performance of the agriculture sector hinges on the drag it carries of the poor performance from the rainfed areas and drought prone areas of the country. The rainfed areas constitute more than 50% of the total cropped area, and therefore, under the rainfed conditions, these regions certainly cause stress on sustaining the growth performance of the sector.

In this background, the current study published under 'Research and Policy series' charts out evolution of policy on rainfed areas and mitigation of droughts since colonial period and focuses on how distress in agricultural sector majorly due to droughts and rainfed areas gets directly echoed in the national income. It also discusses various interventions and initiatives undertaken at the state and national level, their issues and way ahead. Further after analysing the drought situation and history of meeting the drought with policy tools this paper goes ahead to suggest a few important policy leads.

Major Findings

1. One of the major reasons for the subdued performance of agricultural sector is the low productivity on account of the fact that a vast cropped area is rainfed. It is observed that during the period between 1951-2020, there were 19 troughs (bad years) in the GVA growth rate series and the performance of agriculture during these years has also got influenced (better to say pulled down) by the presence of rainfed areas and intermittent droughts.
2. The estimates of rainfed areas vary significantly across the states. There are few states, which have a higher rainfed area as percentage of their net-cropped area, and these are the states that suffer from the vagaries of droughts with more than 20% probability. In India, 10 states have more than 40% of their net sown area under rainfed conditions. Among these, Assam comes under assured rainfall

zone (2,579 mm per year), but has 87% of its net sown area as rain dependent, and so is the case of Odisha (72.7%). The rest of the states have a large share of net sown area under rainfed conditions. States like Maharashtra (81.3%), Karnataka (68.1%), Andhra Pradesh (55.9%), Gujarat (58.9%) and Rajasthan (55.3%) are the most climatically vulnerable regions. At the national level, Rainfed agriculture occupies about 51 percent of country's net sown area.

3. Over the years, millets, coarse cereals, and minor pulses were relegated in their area share, with rice and wheat emerging as elite crops due to financial support from the government in terms of Minimum Support Prices (MSP). Data on state's support in terms of procurement reveals that the procurement of wheat and rice was 250 to 800 times higher than the nutria-cereals having only 0.12% to 0.77% share of procurement to the total procurement of wheat and rice. As a result of this, area share of the rainfed crops has substantially gone down from 45% (as % to gross cropped area) in 1953 to 32.68% in 2017-18.
4. Between 2001 and 2011 decennial population censuses, there has been a decline among the cultivators and substantial increase in the agricultural labourers in the states, with a very large share coming from the states having high share of rainfed areas. At All India level, about 8.62 million cultivators had declared (in the census) that they were no more in the vocation of cultivation, and at the same time, there was an increase of 37.55 million in agricultural labourers at the national level.
5. The migration due to economic stress for the purpose of work or employment takes place largely from Bihar and Uttar Pradesh as well as from the states having larger proportion of rainfed areas. It is also true that most of the migrant labourers from these states (also the intra-state migration) come to the urban locations in search of menial jobs on the construction sites, which has increased substantially during the last two decades.

Policy Implications

1. First and foremost, it is necessary to make National Rainfed Area Authority (NRAA) a permanent institutional structure to deal with policy initiatives in rainfed areas and for undertaking measures to ameliorate drought effects. The NRAA should be



connected with similar working institutions across the rainfed states in the country, especially the states confronting droughts with high probability and having a large share of rainfed areas.

2. It is necessary to put in place an early warning system connected from taluk to the district and through the state governments to NRAA. The best model for the early warning system is available with the Karnataka State Natural Disaster Management Centre's (KSNDMC) programme of establishing a network of telemetric rain gauge stations and obtaining the data on real-time basis. The state level institutions assisting NRAA may consider developing a network of telemetric rain gauge stations across the country on the lines of KSNDMC to monitor the early warning system as well as the progress of the droughts. This should be connected with the IMD and the other concerned departments at the state level.
3. Mostly the hierarchy rather than expertise dominate the national Crop Weather Watch Group (CWWG) discussions. The CWWGs are functional in most of the states, but should incorporate some of the drought experts in order to sharpen the policy interventions. The institutional structure that has been put in place at the Ministry of Agriculture, Government of India, is one of the best examples to be followed by the state governments confronting droughts with higher probability.
4. Under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), employment is provided for 100 days, and the rest of the time, the labourers are left to fend for themselves. MGNREGS can be converted into a Labour Supply Corporation (LSC), wherein the labourer should first register with the LSC about their availability and time. The LSC, in turn, will supply labourers to the works undertaken by the governments and the private construction companies at a pre-decided wage rate.
5. Experience of many watershed projects reveal that farmers do not adopt recommended practices. The transfer of technology in the watershed projects heavily follows a top-down approach, and the stakeholders are compelled to participate rather than volunteer to participate. Designing and planning for watershed projects should be with the help and full involvement of stakeholders. For this, the Panchayati

Raj Institutions (PRIs) could be roped in to ensure accountability.

6. There is a strong need for increasing the public investment in the rainfed/drought prone areas and taking up projects in rural industrialisation with the help of private industries supported by the government, wherever possible. This will enhance the availability of alternative employment. Out-migration from the rural areas will reduce and the rural folks will find better alternative sources for sustaining their livelihood.
7. With the constitutional amendment in 1993, decentralised development planning has been accepted as the methodology for development. The PRIs could be very effectively used in order to monitor and promote developmental initiatives through their representatives. Recently, there is a specialised university established at Gadag, Karnataka, to train young personnel to work in the panchayat raj institutional framework equipped with essential tools and techniques.
8. There has been adequate focus on research on rainfed and drought prone areas, but philosophical blockade behind all these is the seed-water-fertiliser strategy as the core of the recommended technology. With the major concern to bring the rainfed areas into the mainstream, it is possible to dovetail the extension with the PRIs placing one extension person trained with a diploma in extension at the Gram Panchayat (GP) level. This person could be given multiple responsibilities for monitoring the drought situation and connecting with the chain that need to be established from the village to the NRAA in Delhi.
9. Agriculture is the mainstay of the population in the rainfed areas, and there are not many opportunities for diversification except animal husbandry, poultry and piggery. Rural-based industries have not been proliferating, as they should be in the rainfed areas to provide employment for the rural youth, who prefer to work in industries rather than in agriculture. This will also control the outmigration from rural areas to urban centres.
10. The solutions to the rural problems lie with the people from the society and this tagline was used in the projects initiated by NABARD in many locations. Government of India should take clue from these projects to implement the methodology and process of interacting with people.